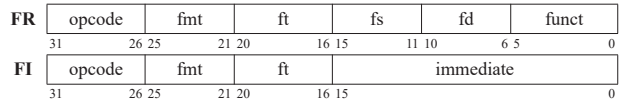
ARITHMETIC CORE INSTRUCTION SET

NAME, MNEMONIC		FORMAT	OPERATION		OPCODE / FMT /FT / FUNCT (Hex)
Branch On FP True	`bc1t`	FI	if(FPcond)PC=PC+4+BranchAddr	(4)	11/8/1/--
Branch On FP False	`bc1f`	FI	if(!FPcond)PC=PC+4+BranchAddr	(4)	11/8/0/--
Divide	`div`	R	Lo=R[rs]/R[rt]; Hi=R[rs]%R[rt]		0/--/--/1a
Divide Unsigned	`divu`	R	Lo=R[rs]/R[rt]; Hi=R[rs]%R[rt]	(6)	0/--/--/1b
FP Add Single	`add.s`	FR	F[fd]= F[fs] + F[ft]		11/10/--/0
FP Add Double	`add.d`	FR	{F[fd],F[fd+1]} = {F[fs],F[fs+1]} + {F[ft],F[ft+1]}		11/11/--/0
FP Compare Single	`c.`*x*`.s`*	FR	FPcond = (F[fs] *op* F[ft]) ? 1 : 0		11/10/--/*y*
FP Compare Double	`c.`*x*`.d`*	FR	FPcond = ({F[fs],F[fs+1]} *op* {F[ft],F[ft+1]}) ? 1 : 0		11/11/--/*y*
* (*x* is `eq`, `lt`, or `le`) (*op* is ==, <, or <=) (*y* is 32, 3c, or 3e)					
FP Divide Single	`div.s`	FR	F[fd] = F[fs] / F[ft]		11/10/--/3
FP Divide Double	`div.d`	FR	{F[fd],F[fd+1]} = {F[fs],F[fs+1]} / {F[ft],F[ft+1]}		11/11/--/3
FP Multiply Single	`mul.s`	FR	F[fd] = F[fs] * F[ft]		11/10/--/2
FP Multiply Double	`mul.d`	FR	{F[fd],F[fd+1]} = {F[fs],F[fs+1]} * {F[ft],F[ft+1]}		11/11/--/2
FP Subtract Single	`sub.s`	FR	F[fd]=F[fs] - F[ft]		11/10/--/1
FP Subtract Double	`sub.d`	FR	{F[fd],F[fd+1]} = {F[fs],F[fs+1]} - {F[ft],F[ft+1]}		11/11/--/1
Load FP Single	`lwc1`	I	F[rt]=M[R[rs]+SignExtImm]	(2)	31/--/--/--
Load FP Double	`ldc1`	I	F[rt]=M[R[rs]+SignExtImm]; F[rt+1]=M[R[rs]+SignExtImm+4]	(2)	35/--/--/--
Move From Hi	`mfhi`	R	R[rd] = Hi		0 /--/--/10
Move From Lo	`mflo`	R	R[rd] = Lo		0 /--/--/12
Move From Control	`mfc0`	R	R[rd] = CR[rs]		10 /0/--/0
Multiply	`mult`	R	{Hi,Lo} = R[rs] * R[rt]		0/--/--/18
Multiply Unsigned	`multu`	R	{Hi,Lo} = R[rs] * R[rt]	(6)	0/--/--/19
Shift Right Arith.	`sra`	R	R[rd] = R[rt] >>> shamt		0/--/--/3
Store FP Single	`swc1`	I	M[R[rs]+SignExtImm] = F[rt]	(2)	39/--/--/--
Store FP Double	`sdc1`	I	M[R[rs]+SignExtImm] = F[rt]; M[R[rs]+SignExtImm+4] = F[rt+1]	(2)	3d/--/--/--

FLOATING-POINT INSTRUCTION FORMATS



PSEUDOINSTRUCTION SET

NAME	MNEMONIC	OPERATION
Branch Less Than	`blt`	if(R[rs]<R[rt]) PC = Label
Branch Greater Than	`bgt`	if(R[rs]>R[rt]) PC = Label
Branch Less Than or Equal	`ble`	if(R[rs]<=R[rt]) PC = Label
Branch Greater Than or Equal	`bge`	if(R[rs]>=R[rt]) PC = Label
Load Immediate	`li`	R[rd] = immediate
Move	`move`	R[rd] = R[rs]

NAME	NUMBER	USE	PRESERVED ACROSS A CALL?
$zero	0	The Constant Value 0	N.A.
$at	1	Assembler Temporary	No
$v0-$v1	2-3	Values for Function Results and Expression Evaluation	No
$a0-$a3	4-7	Arguments	No
$t0-$t7	8-15	Temporaries	No
$s0-$s7	16-23	Saved Temporaries	Yes
$t8-$t9	24-25	Temporaries	No
$k0-$k1	26-27	Reserved for OS Kernel	No
$gp	28	Global Pointer	Yes
$sp	29	Stack Pointer	Yes
$fp	30	Frame Pointer	Yes
$ra	31	Return Address	No